

("ANNEXES" of IPER)

Translation of Amended Pages 21 to 265 **Claims**

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1. An electrical connector comprising a multiplicity of contact elements (4; 9),
with the electrical connector containing one or
more connector modules (SM; KM), each thereof comprising at least one contact support (3; 8) and a multiplicity of contact elements (4; 9) connected to the contact support and extending along the surface thereof,
characterized in that the contact supports (3; 8) and the contact elements (4; 9) supported by the same are connected to each other in non-releasable manner.
 2. An electrical connector according to claim 1, characterized in that the contact elements (4; 9) are constituted by metal strips.
 3. An electrical connector according to claim 1 or 2, characterized in that the front ends of the contact supports (3; 8) are portions thereof without contact elements.
 4. An electrical connector according to any of the preceding claims, characterized in that the front ends of the contact supports (3; 8) are provided with tapers suitable for centering with respect to other contact elements (3; 8).

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- 40 5. An electrical connector according to any of the preceding claims, characterized in that the contact elements (4; 9) project beyond the rear end of the contact supports (3; 8).
- 45 6. An electrical connector according to claim 5, characterized in that the contact elements (4; 9) have a bent or kinked section (41; 91) in the portion thereof extending beyond the rear end of the contact supports (3; 8).
- 50 7. An electrical connector according to claim 6, characterized in that the bent or kinked sections (41; 91) of the contact elements (4; 9), in the assembled state of the electrical connector, come to lie in a cavity (11; 61) contained in said connector.
- 55 8. An electrical connector according to claim 6 or 7, characterized in that the contact element parts located on either side of the bent or kinked sections (41; 91) are movable relative to each other also in the assembled state of the electrical connector.
- 60 9. An electrical connector according to any of the preceding claims, characterized in that the contact elements (4; 9), in the region in which they are supposed to establish contact with an associated contact element (4; 9), have one or more protuberances or bulges (42) acting as contact locations.
- 65 10. An electrical connector according to claim 9,

70 characterized in that the portions of the contact
elements (4; 9) having said protuberances or bulges
(42) are designed to be resilient.

75 11. An electrical connector according to any of the pre-
ceding claims,
characterized in that the contact elements (4; 9)
are connected to the contact supports (3; 8) by hav-
ing plastics material injection-molded around part
thereof.

80 12. An electrical connector according to any of the pre-
ceding claims,
characterized in that the contact supports (3; 8)
have groove-like recesses (31) at those locations
85 where contact elements (4; 9) are to be provided
thereon.

90 13. An electrical connector according to claim 12,
characterized in that the contact elements (4; 9)
are inserted into the groove-like recesses (31) of
the contact supports (3; 8) and, at the rear end of
the contact supports, are connected to the contact
support in that plastics material is injection-
molded thereto.

95 14. An electrical connector according to claim 12 or 13,
characterized in that the contact elements (4; 9)
are designed and mounted to the contact supports (3;
8) such that the parts thereof extending through the
100 groove-like recesses, which are not injection-molded
to the contact supports, are resiliently urged
against the bottom of the groove-like recess through
which they extend.

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- 105 15. An electrical connector according to any of claims 1 to 12,
characterized in that the contact support (3; 8) is injection-molded to the contact elements (4; 9).
- 110 16. An electrical connector according to any of the preceding claims,
characterized in that, in the assembled state of the electrical connector, a predetermined section (32; 82) of the connector modules (SM; KM) is inserted
115 between other components (1, 2; 6, 7) of the electrical connector and thereby is held there.
- 120 17. An electrical connector according to claim 16,
characterized in that said predetermined section (32; 82) of the connector modules (SM; KM) and the other components (1, 2; 6, 7) of the electrical connector receiving said section therebetween have spaces provided therebetween.
- 125 18. An electrical connector according to any of the preceding claims,
characterized in that the connector modules (SM; KM), in the assembled state of the electrical connector, are movable relative to each other and/or
130 relative to other components (1, 2; 6, 7) of the electrical connector.
- 135 19. An electrical connector according to any of the preceding claims,
characterized in that the connector modules (SM; KM) are individually or commonly enclosed on the sides thereof by parts of a housing (2; 7).
20. An electrical connector according to claim 19,

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characterized in that the housing parts enclosing the connector modules (SM; KM) project beyond the front end of the connector modules.

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21. An electrical connector according to claim 20, characterized in that the housing parts projecting beyond the front end of the connector modules (SM; KM) are provided with tapers (23; 712) suitable for centering with respect to the housings of other electrical connectors.

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22. An electrical connector according to any of the preceding claims, characterized in that, in mating the electrical connector with a complementary, second electrical connector, the connector modules (SM; KM) meet each other only after having been pre-centered.

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23. An electrical connector according to claim 22, characterized in that the pre-centering is effected by centering of housing parts meeting each other therebefore.

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24. An electrical connector according to any of the preceding claims, characterized in that said connector is designed to be soldered to a circuit board using the PSGA technology.

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25. An electrical connector according to any of claims 1 to 23, characterized in that said connector is designed to be soldered to a circuit board using the BGA technology.

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26. An electrical connector according to claim 25,

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180 characterized in that the balls (16) are arranged remote from the locations (15) where the contact elements (4; 9) reach the section (1; 6) of the electrical connector to be soldered to the circuit board, and that the respective locations and the associated balls are connected to each other via conductive tracks (17).

185 27. An electrical connector according to claim 25, characterized in that the balls (16) are arranged at the locations (16) where the contact elements (4; 9) reach the section of the electrical connector to be soldered to the circuit board, and in that the arrangement of the respective locations is selected to
190 be different from the arrangement of the contact elements on the contact supports (3; 8).